

WHAT IS CLAIMED IS:

1. A replaceable fuser roller member, the member comprising:
 - a) a high temperature nickel sleeve having an inner diameter
5 adapted to closely fit around an outer diameter of a mandrel in an electrophotographic machine fuser section;
 - b) a base cushion elastomer layer around an outside of the sleeve;
 - c) a primer consisting essentially of a silane coupling agent
10 containing epoxies positioned on the outside of the sleeve to provide bonding between the base cushion and the sleeve; and
 - d) a layer of a cured thermoplastic polymer selected from the group consisting of thermoplastic polyfluorocarbon polymers and thermoplastic polyfluorocarbon random copolymers around the outside of the base cushion.
15
2. The member of Claim 1, wherein said sleeve is of the same metal as the mandrel.
3. The member of Claim 1, wherein said sleeve is of a
20 thickness from about 0.001 to about 0.05 inches.
4. The member of Claim 1, wherein said mandrel is of a metal having a coefficient of thermal expansion near a coefficient of thermal expansion of the sleeve.
25
5. The member of Claim 1, wherein said sleeve has an inside diameter from about 0.001 to about 0.002 inches greater than the outer diameter of the mandrel.
30

6. The member of Claim 1, wherein said base cushion elastomer layer is selected from the group consisting of silicone rubbers, silicon polymers, silicone rubbers containing fillers and silicone polymers containing fillers.

5

7. The member of Claim 6, wherein said base cushion elastomer comprises polydimethylsiloxane.

8. The member of Claim 6, wherein said base cushion elastomer contains at least one filler and is thermally conductive.

9. The member of Claim 1, wherein said primer contains at least one of the group consisting of, (3-glycidoxypropyl)bis (trimethylsiloxy)methylsilane, 3-glycidoxypropyldimethylethoxysilane, (3-glycidoxypropyl) methyl-diethoxysilane, 3-glycidoxypropylmethyl-di-isopropenoxysilane, 3-glycidoxypropylpentamethyl-disiloxane, and 3-glycidoxypropyltrimethoxysilane.

10. The member of Claim 9, wherein said primer is applied to the outside of the sleeve prior to positioning the base cushion elastomer around the sleeve.

11. The member of Claim 1, wherein said primer contains at least one of the group consisting of, (3-glycidoxypropyl)bis (trimethylsiloxy)methylsilane, 3-glycidoxypropyldimethylethoxysilane, (3-glycidoxypropyl)methyl-diethoxy-silane, 3-glycidoxypropylmethyl-di-isopropenoxysilane, 3-glycidoxypropyl-pentamethyl-disiloxane, and 3-glycidoxypropyltrimethoxysilane, wherein the base cushion elastomer contains at least one of silicone rubbers, silicon polymers, silicone rubbers containing fillers to increase thermal conductivity and silicone polymers containing fillers and wherein the sleeve is of high temperature nickel.

12. The member of Claim 11, wherein said primer contains, (3-glycidoxypropyl)bis(trimethylsiloxy)methylsilane.
13. The member of Claim 11, wherein said primer contains, (3-glycidoxypropyl)methyldiethoxysilane.
14. The member of Claim 1, wherein said cured thermoplastic polymer is a thermoplastic fluorocarbon random copolymer containing a bisphenol curing agent residue, and a particulate filler containing at least one of zinc oxide and an aminosiloxane.
15. The member of Claim 1, wherein said cured thermoplastic polymer is a thermoplastic fluorocarbon random copolymer containing a bisphenol curing agent residue, a particulate filler containing zinc oxide, an aminosiloxane and antimony-doped tin oxide particles.
16. The member of Claim 1, wherein said cured thermoplastic polymer has been cured at a temperature from about 220 to about 300°C.
17. The member of Claim 1, wherein said sleeve has a thickness from about 0.002 to about 0.030 inches.
18. The member of Claim 1, wherein said base cushion has a thickness from about 0.6 to about 50 mm.

19. In a replaceable fuser roller member, the member including a high temperature nickel sleeve having an inner diameter adapted to closely fill around an outer diameter of a mandrel in an electrophotographic machine fuser section, a base cushion elastomer layer containing a silicone rubber or a silicone polymer around an outside of the sleeve and a layer of a cured thermoplastic polymer selected from the group consisting of polyfluorocarbon polymers and polyfluorocarbon copolymers around the outside of the sleeve, the improvement comprising: positioning a primer consisting essentially of a silane coupling agent containing epoxies on the outside of the sleeve to thereby improve adhesion of the base cushion elastomer to the outside of the sleeve.